

## J data (X52, D=30, t=0.375)

(in)	Y (lb/in-in)	stress	modulus	radius (in)	n	alpha
0.375	52000	SZ000	30000000	15	10	2.880017
<b>stress=72% Yield Stress</b>						
c (in)	K1(c)	c[eff] (in)	K1(c[eff])	J el	h1	J pl J (72%)
0.5	46924.0813	0.569834275	54838.03747	100.2403	5.59	19.55779 119.7981
1	66360.67218	1.139668551	87901.10223	251.5585	5.59	49.11558 296.669
1.5	81274.89291	1.709502826	123234.2019	506.2223	5.59	58.67337 564.8957
Z	93848.1626	2.279337101	162339.3991	878.4693	5.59	78.23116 956.7005
Z.S	104925.4356	2.849171377	205264.9589	1404.457	S.S9	97.78895 1502.246
3	114940.0558	3.419005652	251731.1828	2112.286	5.59	117.3467 2229.633
3.5	<b>124149.4496</b>	3.988839927	<b>301396.7064</b>	3027.999	S.S9	136.9045 <b>3164.904</b>
4	132721.3444	4.558674203	353931.1921	4175.576	5.59	156.4623 4332.039
4.5	140772.2439	5.128508478	409033.1833	5576.938	S.S9	176.0201 5752.958
5	148386.974	5.698342753	<b>466431.5016</b>	7251.945	S.S9	195.5779 7447.523
5.5	155629.5713	6.268177028	525882.0022	9218.396	5.59	215.1351 <b>9433.532</b>
6	<b>162549.7858</b>	6.838011304	<b>587163.458</b>	11492.03	S.S9	234.6935 11726.72
6.5	<b>169187.1812</b>	7.407845579	650073.7259	14086.53	S.S9	254.2513 <b>14340.78</b>
7	175573.8354	7.977679854	<b>714426.484</b>	17013.51	S.S9	273.809 17287.32
<b>stress=60% Yield Stress</b>						
c (in)	K1(c)	c[eff] (in)	K1(c[eff])	J el	h1	J pl J (60%)
0.5	39103.40108	0.554144385	44925.45197	67.27654	S.S9	2.632243 69.90878
1	55005.6015	1.10828877	71708.05219	171.4015	5.59	5.264487 176.666
1.5	67729.07743	1.662433155	100148.1733	323.3239	S.S9	7.89673 342.2206
2	78206.80217	2.21657754	131534.7602	576.7131	S.S9	10.52897 587.2421
2.5	<b>87437.86298</b>	2.770721925	165948.0855	917.9589	S.S9	13.16122 931.1201
3	95783.37986	3.32486631	<b>203187.4539</b>	<b>1376.171</b>	5.59	15.79346 1391.965
3.5	<b>103457.8747</b>	3.879010695	242992.6543	1968.181	S.S9	18.4257 1986.607
4	<b>110601.1203</b>	4.43315508	285107.2155	2709.539	5.59	21.05795 2730.597
4.5	117310.2033	4.987299465	329295.3975	<b>3614.515</b>	5.59	<b>23.69019</b> 3638.705
5	<b>123655.8117</b>	<b>5.54144385</b>	375343.9492	4696.103	5.59	26.47222 4722.425
5.5	129691.3094	6.095588235	423060.7266	5966.013	S.S9	28.95468 5994.967
6	135458.1549	6.64973262	472271.4482	7434.677	5.59	31.58692 7466.264
6.5	140989.3177	7.203877005	522816.8756	9111.25	5.59	34.21916 9145.469
7	146311.5295	7.75802139	<b>574550.3121</b>	11003.6	S.S9	36.85141 <b>11040.45</b>
<b>Stress=50% Yield Stress</b>						
c (in)	K1(c)	c[eff] (in)	K1(c[eff])	J el	h1	J pl J (50%)
0.5	32586.16757	0.540909091	36892.3141	45.36809	S.S9	0.354268 45.72236
1	<b>46083.80012</b>	1.081818182	58676.32758	114.7637	5.59	0.708537 <b>115.4723</b>
1.5	<b>56440.89786</b>	1.622727273	81680.94733	200.3926	S.S9	1.062805 223.4554
Z	65172.33514	<b>2.163636364</b>	107002.8476	381.6536	5.59	<b>1.417073</b> 383.0707
Z.S	<b>72864.88581</b>	<b>2.704545455</b>	134737.4312	605.1392	S.S9	1.771342 606.9105
3	79819.48322	<b>3.245454545</b>	164739.3098	900.6347	S.S9	2.12561 906.7603
3.5	86214.89557	<b>3.786363636</b>	196808.4526	1291.119	S.S9	2.479878 1293.599
4	92167.60025	4.327272727	230744.267	1774.764	5.59	2.834147 1777.598
4.5	97758.50271	4.868181818	<b>266360.7484</b>	2364.935	5.59	3.188415 2368.123
5	<b>103046.5097</b>	5.409090909	<b>303489.2395</b>	3010.191	5.59	<b>3.542683</b> <b>3073.733</b>
S.S	108076.0912	5.95	<b>341977.312</b>	<b>3898.283</b>	S.S9	3.896952 3902.18
6	<b>112881.7957</b>	6.490909091	381686.6402	4856.156	S.S9	4.25122 <b>4860.408</b>
6.5	<b>117491.0981</b>	7.031818182	422490.825	5949.95	S.S9	4.605488 5954.555
7	121926.2746	7.572727273	464273.4625	7184.995	S.S9	4.959757 <b>7189.955</b>

J data (X52, D=30, t=0.375)

Stress=40%_Yield Stress							
c (in)	K1(c)	c[eff] (in)	K1(c[eff])	J el	h l	J pl	J (40%)
0.5	26068.93406	0.528213166	29093.50897	28.21441	5.59	0.030431	2824.484
1	36867.0401	1.056426332	46114.70371	70.88553	5.59	0.060863	7094.639
1.5	45152.71828	1.584639498	63991.40721	136.4967	5.59	0.091294	136588
2	52137.86811	2.112852665	83617.27659	233.0616	5.59	0.121726	233.1834
2.5	58291.90865	2.641065831	105089.2022	368.1247	5.59	0.152157	368.2768
3	63855.58658	3.169278997	128307.511	548.7606	5.59	0.182589	548.9432
3.5	68971.91646	3.697492163	153124.9067	781.5746	5.59	0.21302	781.7876
4	73734.0802	4.225705329	179390.8338	1072.702	5.59	0.243451	1072.946
4.5	78206.80217	4.753918495	206964.5045	1427.81	5.59	0.273883	1428.084
5	82437.20779	5.282131661	235717.7177	1852.095	5.59	0.304314	1852.399
5.5	86460.87295	5.810344828	265534.3582	2350.283	5.59	0.334746	2350.618
6	90305.43657	6.338557994	296308.9513	2926.633	5.59	0.365177	2926.998
6.5	93992.87844	6.86677116	327945.0937	3584.933	5.59	0.395608	3585.328
7	97541.01968	7.394984326	360354.0252	4328.501	5.59	0.42604	4328.9271

## J data (X52, D=24, t=0.375)

t (in)	Y (lb/in-in)	stress'	modulus	radius (in)	n	alpha
0.375	52000	52000	30000000	12		10 2880017
<b>Stress=72% Yield Stress</b>						
c (in)	K1(c)	c[eff] (in)	K1(c[eff])	J el	h1	J pl J (72%)
0.5	46924.0813	0.569834275	55586.95043	102.997	5.59	19.55779 122.5548
1	66360.67218	1.139668551	90730.25885	274.3993	5.59	39.11558 3135149
1.5	81274.89291	1.709502826	129221.294	556.6048	5.59	5867337 6152781
2	93848.1626	2.279337101	172261.2638	989.1314	5.59	7823116 1067.363
2.5	104925.4356	2.849171377	219678.2651	1608.618	5.59	97.78895 1706.407
3	114940.0558	3.419005652	271043.7393	2448.824	5.59	1173467 2566.17
3.5	1241494496	3988839927	3259123156	3540628	5.59	136.9045 3677.532
4	132721.3444	4.558674203	383876.1916	4912.031	5.59	1564623 5068493
4.5	140772.2439	5.128508478	444572.3855	6588.154	5.59	176.0201 6764.174
5	148386.974	5.698342753	507678.1432	8591.237	5.59	1955779 8786814
5.5	1556295713	6268177028	572904.2254	1094064	5.59	215.1357 11155.78
6	162549.7858	6.838011304	639988.6965	13652.85	5.59	2346935 13887.54
6.5	169187.1812	7.407845579	708691.7627	16741.47	5.59	2542513 1699572
7	175573.8354	7.977679854	778791.6229	20217.21	5.59	273809 20491.02
<b>Stress=60% Yield Stress</b>						
c (in)	K1(c)	c[eff] (in)	K1(c[eff])	J el	h1	J pl J (60%)
0.5	39103.40108	0.554144385	45517.01484	69.05995	5.59	2.632243 71.6922
1	55300.56015	1.10828877	73944.34505	182.2589	5.59	5.264487 187.5234
1.5	67729.07743	1.662433155	104892.7795	366.7498	5.59	789673 374.6466
2	78206.80217	2.21657754	139416.3824	647.8976	5.59	10.52897 658.4266
2.5	87437.862981	2.770721925	177421.405	1049.278	5.59	13.16122, 1062.44
3	95783.37986	3.32486631	218587.3227	1592.681	5.59	15.79346; 1608.474
3.5	103457.8747	3.8790106951	262570.1922	2298.104	5.59	18.4257 2316.529
4	110601.1203	4.43315508	309051.3854	3183.759	5.59	21.05795; 3204.817
4.5	117310.20331	4.987299465	357745.811	4266.069	5.59	23.69019; 4289.759
5	123655.81171	5.54144385	408399.392	5559.669	5.59	26.32243; 5585.991
5.5	129691.3094	6.095588235	460784.2667	7077.405	5.59	28.95468 7106355
6	135458.1549	6.64973262	514694.1161	8830.334	5.59	31.58692 8861.921
6.5	140989.3177	7.203877005	569940.1967	10827.73	5.59	34.21916 10861.95
7	146311.5295	7.75802139	626348.1138	13077.07	5.59	36.85141 13113.92
<b>Stress=50% Yield Stress</b>						
c (in)	K1(c)	c[eff] (in)	K1(c[eff])	J el	h1	J pl J (50%)
0.5	32586.167571	0.540909091	37362.97671	46.53307	5.59	0.354268 46.88734
1	46083.80012	1.081818182	60456.40236	121.8326	5.59	0708537 122.5411
1.5	56440.89786	1.622727273	85465.26601	243.4771	5.59	1062805 244.5399
2	65172.33514	2.163636364	113302.8328	427.9177	5.59	1417073 4293342
2.5	72864.88581	2.704545455	143924.8013	690.4783	5.59	1.771342 692.2496
3	79819.48322	3.245454545	177089.3809	1045.355	5.59	2.12561 1047.481
3.5	86214.895571	3.786363636	212528.8155	1505.617	5.59	2.479878, 1508.096
4	92167.60025	4.327272727	249992.2697	2083.204	5.59	2.834147 2086.039
4.5	97758.50271	4.868181818	289254.1767	2788.933	5.59	3.188415, 2792.121
5	103046.5097	5.409090909	330113.0453	3632.487	5.59	3.542683 3636.03
5.5	108076.0912	5.95	372388.0197	4622.428	5.59	3.896952 4626.325
6	112881.7957	6.490909091	415915.3392	5766.186	5.59	4.25122 5770.437
6.5	117491.098	7.031818182	460545.2666	7070.065	5.59	4.605488 707467
7	1219262746	7572727273	5061395628	8539242	5.59	4959757 8544.202

J data (X52, D=24, t=0.375)

$c$ (in)	$K1(c)$	$c[eff]$ (in)	$K1(c[eff])$	$Jel$	$hI$	$Jpl$	$J$ (40%)
0.5	26068.93406	0.528213166	29453.30859	28.91658	5.59	0.030431	<del>28.94701</del>
1	36867.0401	1.056426332	47475.93623	75.13215	5.59	0.060863	<del>75.19301</del>
1.5	45152.71828	1.584639498	66891.01736	149.1469	5.59	0.091294	<del>149.2382</del>
2	52137.86811	2.112852665	88454.22623	260.805	5.59	0.121726	260.9267
2.5	5829190865	2.641065831	112155.3696	419.2942	5.59	0.152157	419.4464
3	63855.58658	3.169278997	137820.1367	633.1463	5.59	0.182589	633.3289
3.5	68971.91646	3.697492163	165248.6187	910.2369	5.59	0.21302	910.4499
4	73734.0802	4.225705329	194251.2701	1257.785	5.59	0.243451	1258.029
4.5	78206.80217	4.753918495	224656.7074	1682.355	5.59	0.273883	1682.628
5	82437.20779	5.282131661	256311.4468	2189.852	5.59	0.304314	2190.156
5.5	86460.87295	5.810344828	289077.5791	2785.528	5.59	0.334746	2785.863
6	90305.43657	6.338557994	322830.2092	3473.978	5.59	0.365177	3474.343
6.5	93992.87844	6.86677116	357455.1795	4259.14	5.59	0.395608	4259.536
7	97541.01968	7.394984326	392847.1731	5144.297	5.59	0.42604	5144.723

J data (X52, D=24, t=0.312)

t (in)	Y (lb/in-in)	stress'	modulus	radius (in)	n	alpha
0.312	52000	52000	30000000	12	10	2.880017
<b>Stress=72% Yield Stress</b>						
c (in)	K1(c)	c[eff] (in)	K1(c[eff])	J el	h l	J pl J (72%)
0.5	46924.0813	0.569834275	56300.04351	105.6565	5.59	1955779 1252143
1	6636067218	1.139668551	9341341295	2908689	5.59	39.11558 329.9844
1.5	81274.89291	1.709502826	134843.8853	606.0958	5.59	5867337 6647691
2	93848.1626	2.279337101	1814939376	1098002	5.59	7823116 1176233
2.5	1049254356	2.849171377	2329886167	1809457	5.59	97.78895 1907.245
3	1149400558	3.419005652	2887664871	2779536	5.59	117.3467 2896.883
3.5	124149.4496	3.988839927	348289.6177	4043.522	5.59	136.9045 4180.426
4	132721.3444	4.558674203	411080.3206	5632.901	5.59	156.4623 5789.363
4.5	140772.2439	5.128508478	476718.9782	7575.366	5.59	176.0201 7751.386
5	148386.974	5.698342753	544834.3551	9894.816	5.59	195.5779 10090.39
5.5	155629.5713	6.268177028	615093.9972	12611.35	5.59	215.1357 12826.49
6	162549.7858	6.838011304	687196.2835	15741.29	5.59	234.6935 15975.98
6.5	169187.1812	7.407845579	760864.1533	19297.14	5.59	254.2513 19551.39
7	175573.8354	7.977679854	835840.2027	23287.63	5.59	273.809 23561.44
<b>Stress=60% Yield Stress</b>						
c (in)	K1(c)	c[eff] (in)	K1(c[eff])	J el	h l	J pl J (60%)
0.5	39103.40108	0.554144385	46080.19344	70.77947	5.59	2.632243 73.41172
1	55300.56015	1.10828877	76066.26214	192.8692	5.59	5.264487 198.1337
1.5	67729.07743	1.662433155	109351.8944	398.5946	5.59	7.89673 406.4913
2	78206.80217	2.21657754	146757.3899	717.9244	5.59	10.52897 728.4534
2.5	87437.86298	2.770721925	188026.9413	1178.471	5.59	13.16122 1191.632
3	95783.37986	3.32486631	232733.1292	1805.49	5.59	15.793461 1821.284
3.5	103457.8747	3.879010695	280457.5685	2621.882	5.59	18.4257 2640.307
4	110601.1203	4.43315508	330825.6796	3648.188	5.59	21.05795 3669.246
4.5	117310.2033	4.987299465	383507.2967	4902.595	5.59	23.69019 4926.285
5	123655.8117	5.54144385	438209.985	6400.933	5.59	26.32243 6427.255
5.5	129691.3094	6.095588235	494671.8734	8156.675	5.59	28.95468 8185.63
6	135458.1549	6.64973262	552655.557	10180.94	5.59	31.58692 10212.53
6.5	140989.3177	7.203877005	611943.2218	12482.48	5.59	34.21916 12516.7
7	146311.5295	7.75802139	672332.8057	15067.71	5.59	36.85141 15104.56
<b>Stress=50% Yield Stress</b>						
c (in)	K1(c)	c[eff] (in)	K1(c[eff])	J el	h l	J pl J (50%)
0.5	32586.16757	0.540909091	37810.98658	47.65569	5.59	0.354268 48.00996
1	46083.80012	1.081818182	62146.10816	128.738	5.59	0.708537 129.4465
1.5	56440.89786	1.622727273	89024.57082	264.1791	5.59	1.062805 265.2419
2	65172.33514	2.163636364	119175.409	473.4259	5.59	1.417073 474.843
2.5	72864.88581	2.704545455	152424.3501	774.4394	5.59	1.771342 776.2108
3	79819.483221	3.245454545	188443.2288	1183.695	5.59	2.12561 1185.821
3.5	86214.89557	3.786363636	226904.1119	1716.183	5.59	2.479878 1718.662
4	92167.60025	4.327272727	267511.0918	2385.406	5.59	2.834147 2388.24
4.5	97758.50271	4.868181818	310002.4696	3203.384	5.59	3.188415 3206.573
5	103046.5097	5.409090909	354146.1616	4180.65	5.59	3.542683 4184.193
5.5	108076.0912	5.95	399734.3121	5326.251	5.59	3.896952 5330.148
6	112881.7957	6.490909091	446578.5816	6647.748	5.59	4.25122 6651.999
6.5	117491.098	7.031818182	494506.3314	8151.217	5.59	4.605488 8155.823
7	1219262746	7572727273	543357.5967	9841249	5.59	4959757 9846209

### J data (X52, D=24, t=0.312)

Stress=40% Yield Stress							
<b>c (in)</b>	<b>K1(c)</b>	<b>c[eff] (in),</b>	<b>K1(c[eff])</b>	<b>J el</b>	<b>h l</b>	<b>J pl</b>	<b>J (40%)</b>
0.5	26068.93406	0.528213166	29795.73421	29.59286	5.59	0.030431	29.62329
1	36867.0401	1.056426332	48768.54301	79.27903	5.59	0.060863	79.33989
1.5	45152.71828	1.584639498	69620.04376	161.565	5.59	0.091294	161.6563
2	52137.86811	2.1128526658	92966.5606	288.0927	5.59	0.121726	288.2144
2.5	58291.90865	2.641065831	118697.856	469.6394	5.59	0.152157	469.7915
3	63855.58658	3.169278997	146572.6029	716.1176	5.59	0.182589	716.3002
3.5	68971.91646	3.697492163	176344.1571	1036.575	5.59	0.21302	1036.788
4	73734.0802	4.225705329	207788.07261	1439.196	5.59	0.243451	1439.44
4.5	78206.80217	4.753918495	240705.1177	1931.298	5.59	0.273883	1931.572
5	82437.20779	5.282131661	274918.3446	2519.337	5.59	0.304314	2519.641
5.5	86460.872951	5.810344828	310269.22881	3208.9	5.59	0.334746	3209.235
6	90305.43657	6.338557994	346614.18461	4004.713	5.59	0.365177	4005.078
6.5	93992.87844	6.86677116	383821.70071	4910.637	5.59	0.395608	4911.032
7	97541.01968	7.394984326	421770.051	5929.666	5.59	0.42604	5930.092

J data (X52, D=16, t=0.312)

t	Y (lb/in-in)	stress'	modulus	radius (in)	n	alpha
0.312	52000	52000	30000000	8	10	2880017
Stress=72% Yield Stress						
c (in)	K1(c)	c[eff] (in)	K1(c[eff])	J el	h1	J pl J (72%)
0.5	46924.0813	0.569834275	58244.88129	113.0822	5.59	19.55779 132.64
1	66360.67218	1.139668551	100652.9102	337.7003	5.59	39.11558 376.8159
1.5	81274.89291	1.709502826	149762.168	747.6236	5.59	58.67337 806.2969
2	93848.1626	2.279337101	205644.1694	1409.651	5.59	78.23116 1487.882
2.5	104925.4356	2.849171377	267410.3678	2383.61	5.59	97.78895 2481.399
3	114940.0558	3.419005652	334171.7731	3722.359	5.59	117.3467 3839.706
3.5	124149.4496	3.988839927	405158.6596	5471.785	5.59	136.9045 5608.689
4	132721.3444	4.558674203	479712.5084	7670.803	5.59	156.4623 7827.265
4.5	140772.2439	5.128508478	557261.8764	10351.36	5.59	176.0201 10527.38
5	148386.974	5.698342753	637301.2763	13538.43	5.59	195.5779 13734.01
5.5	155629.5713	6.268177028	719375.131	17250.02	5.59	215.1357 17465.15
6	162549.7858	6.838011304	803065.8766	21497.16	5.59	234.6935 21731.85
6.5	169187.1812	7.407845579	887985.0698	26283.92	5.59	254.2513 26538.17
7	175573.8354	7.977679854	973766.6072	31607.38	5.59	273.809 31881.191
Stress=60% Yield Stress						
c (in)	K1(c)	c[eff] (in)	K1(c[eff])	J el	h1	J pl J (60%)
0.5	39103.40108	0.554144385	47616.04659	75.57626	5.59	2.632243 78.20851
1	55300.56015	1.10828877	81796.71145	223.0234	5.59	5.264487 228.2879
1.5	67729.077431	1.662433155	121198.7402	489.6378	5.59	7.89673 497.5346
2	78206.802171	2.21657754	165986.7545	918.3868	5.59	10.52897 928.9157
2.5	87437.862981	2.770721925	215493.0338	1547.908	5.59	13.16122 1561.069
3	95783.37986	3.32486631	269026.6447	2412.511	5.59	15.79346 2428.305
3.5	103457.8747	3.879010695	325983.5229	3542.175	5.59	18.4257 3560.601
4	110601.1203	4.43315508	385845.2123	4962.551	5.59	21.057951 4983.609
4.5	117310.2033	4.987299465	448161.5639	6694.96	5.59	23.69019 6718.65
5	123655.81171	5.54144385	512534.682	8756.393	5.59	26.32243 8782.716
5.5	129691.3094	6.095588235	578606.4774	11159.52	5.59	28.95468 11188.47
6	135458.1549	6.64973262	646049.35361	13912.66	5.59	31.58692 13944.25
6.5	140989.31778	7.203877005	714559.2161	17019.83	5.59	34.21916 17054.05
7	146311.52951	7.75802139	783850.1366	20480.7	5.59	36.85141 20517.551
Stress=50% Yield Stress						
c (in)	K1(c)	c[eff] (in)	K1(c[eff])	J el	h1	J pl J (50%)
0.5	32586.16757	0.540909091	39032.64527	50.78491	5.59	0.354268 51.13918
1	46083.80012	1.081818182	66712.8071	148.3533	5.59	0.708537 149.0618
1.5	56440.89786	1.622727273	98491.47835	323.3524	5.59	1.062805 324.4152
2	65172.33514	2.163636364	134577.13241	603.7002	5.59	1.417073 605.1172
2.5	72864.88581	2.704545455	174463.6323	1014.585	5.59	1.771342 1016.357
3	79819.483221	3.245454545	217609.7811	1578.467	5.59	2.12561 1580.593
3.5	86214.895571	3.786363636	263538.0081	2315.076	5.59	2.479878 2317.556
4	92167.60025	4.327272727	311837.103	3241.413	5.59	2.834147 3244.247
4.5	97758.50271	4.868181818	362149.7686	4371.748	5.59	3.188415 4374.937
5	103046.5097	5.409090909	414160.329	5717.626	5.59	3.542683 5721.169
5.5	108076.0912	5.95	467585.0065	7287.858	5.59	3.896952 7291.755
6	112881.7957	6.490909091	522164.5782	9088.528	5.59	4.25122 9092.779
6.5	117491.098	7.031818182	577658.8406	11122.99	5.59	4.605488 11127.61
7	121926.2746	7.572727273	633842.3786	13391.87	5.59	4.959757 13396.83

### J data (X52, D=16, t=0.312)

Stress=40% Yield Stress							
c (in)	K1(c)	c[eff] (in),	K1(c[eff])	J <sub>el</sub>	h <sub>l</sub>	J <sub>pl</sub>	J (40%)
0.5	26068.93406	0.528213166	30729.36959	31.47647	5.59	0.030431	31.5069
1	36867.0401	1.056426332	52264.53826	91.05273	5.59	0.060863	91.11359
1.5	45152.71828	1.584639498	76886.53909	197.0513	5.59	0.091294	197.1428
2	52137.86811	2.112852665	104815.0348	366.2064	5.59	0.121726	366.3281
2.5	58291.90865	2.641065831	135683.1142	613.6636	5.59	0.152157	613.8157
3	63855.58658	3.169278997	169084.019	952.9802	5.59	0.182589	953.1628
3.5	68971.91646	3.697492163	204655.1987	1396.125	5.59	0.21302	1396.338
4	73734.0802	4.225705329	242083.3616	1953.478	5.59	0.243451	1953.722
4.5	78206.80217	4.753918495	281096.025	2633.833	5.59	0.273883	2634.106
5	82437.207791	5.282131661	321452.5164	3444.391	5.59	0.304314	3444.695
5.5	86460.87295	5.810344828	362936.6918	4390.768	5.59	0.334746	4391.103
6	90305.43657	6.338557994	405351.3799	5476.991	5.59	0.365177	5477.357
6.5	93992.87844	6.86677116	448514.1742	6705.499	5.59	0.395608	6705.894
7	97541.01968	7.394984326	492254.2092	8077.14	5.59	0.42604	8077.566